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V. S.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/938, 173 09/26/97 BROCKHOFF

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IM22/0322

EXAMINER

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KIM, S

ART UNIT	PAPER NUMBER
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1723

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DATE MAILED:

03/22/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/938,173	Applicant(s) Brockhoff
	Examiner John Kim	Group Art Unit 1723

Responsive to communication(s) filed on Feb 28, 2000.

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-14 and 17-21 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) 1 and 2 is/are allowed.

Claim(s) 3-14 and 17-21 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered second claim 20 (16. rewritten) has been renumbered claim 21.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-14 and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 is indefinite for failing to particularly point out whether the inner wall of the blood inlet channel or the inner wall of the housing that forms a blood inlet channel. Claims 18-21 are indefinite for failing to particularly point out what "it" is that moves through the cyclone eddy chamber. Recitations of "the radially inner center of the cyclone eddy current (path)" in claims 18-21, "said pitch" in claim 19, "the radially outer cyclone eddy region", "the radially inner cyclone eddy current region", "the cyclone outlet" and "the cyclone eddy current path" in claims 20-21 lack positive antecedent basis.

4. Claims 3-14, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 49-15341 (hereinafter referred to as JP '341) in view of Great Britain Patent

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No. 1,352,166 (hereinafter referred to as GB '166). JP '341 teaches a cyclone device for removing gas from liquid comprising a non-rotating eddy chamber (1) having an inlet and an outlet for producing a cyclone eddy current that separates gas from liquid where gas is removed through an outlet (5) in a radially inner cyclone eddy current region, a cyclone inlet comprising multiple wings supporting and attached to an inserted body, streamline shaped wherein shape causes a narrowing funnel shape of liquid inlet channel in a housing with constant diameter and gas outlet (5) and a portion of liquid outlet (1) positioned in a coaxial manner downstream from a cyclone outlet, the blood inlet channel and the eddy chamber having respectively aligned center lines, the cyclone outlet for liquid phase and the eddy chamber having respectively aligned center lines (see figure 1). Claims 3-14, 18 and 20 essentially differ from the apparatus of JP '341 in reciting a helical circular path made by at least one helically extending rib passing around the insert body. GB '166 teaches a cyclone device with helical elements (6) on an inserted body (5) for driving gas in an intense whirling motion which results in the assembly of gas along the axis of the conduit owing to its low density relative to the liquid (see figure; page 2, lines 12-20). It would have been obvious to a person of ordinary skill in the art to modify the multiple wings on the inserted body of JP '341 for the helical elements in order to improve intense whirling motion of gas to gather gas along the axis of the conduit for more efficient separation of gas as suggested by GB '166. At best, claim 17 differs from the apparatus of JP '341 modified by GB '166 in reciting a pressure supplying pump for liquid with positive pressure to the liquid inlet channel. It would have been obvious to a person of ordinary skill in the art to incorporate a pressure

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supplying pump to the cyclone apparatus of JP '341 modified by GB '166 since the entry of faster flowing liquid actuated by any pressure device such as a common pressure supplying pump enhances the whirling action around the helical elements and separates out gas more effectively from liquid.

5. Claims 1-2 are allowed.

6. Claims 19 and 21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

7. Applicant's arguments with respect to claims 1-14 and 17-21 have been considered but are moot in view of the new ground(s) of rejection. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is (703) 308-2350. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for official response after final action is (703) 305-3599, and the fax phone number for all other official faxes is (703) 305-7718.

When sending a draft amendment by fax, please mark the paper as "DRAFT"; otherwise, mark the paper "OFFICIAL". This will expedite the processing of the paper.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

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John Kim
Primary Examiner
Art Unit 1723

J. Kim
March 21, 2000